

CLAIMS

1. A method of manufacturing a ceramic honeycomb structure, comprising the steps of: attaching sheets onto
5 opposite end faces of a ceramic honeycomb body having a plurality of cells and formed into a honeycomb shape; drilling holes in the sheets at positions corresponding to opening parts of the cells; filling, through the holes,
10 a slurry for sealing into the opening parts of the cells in the opposite end faces of the ceramic honeycomb body; firing the body; and alternately sealing the opening parts of the cells, characterized by comprising the steps of:

forming the ceramic honeycomb body into a shape
15 having at least one reference cell which is different in a shape of the opening part in the end face from the other cells; and drilling the holes in the sheets at the positions corresponding to the opening parts of the reference cell and the other cells by use of the
20 reference cells as reference points.

2. The method of manufacturing the ceramic honeycomb structure according to claim 1, further comprising the steps of: picking up images of the end
25 faces of the ceramic honeycomb body, to which the sheets have been attached; processing the picked-up images; specifying the positions in the sheets, corresponding to

the opening parts of the reference cells; and drilling the holes by the use of the reference cells as the reference points.

5 3. The method of manufacturing the ceramic honeycomb structure according to claim 1 or 2, further comprising the steps of: drilling the holes by the use of a laser marker.

10 4. The method of manufacturing the ceramic honeycomb structure according to claim 1 or 2, further comprising the steps of: drilling the holes by the use of one needle or needles in the form of a needle point holder having pitch intervals corresponding to those of
15 the opening parts of the cells.

 5. The method of manufacturing the ceramic honeycomb structure according to any one of claims 1 to 4, further comprising the steps of: forming a shape of a
20 corner portion of the opening part of the reference cell into a curved shape having a curvature radius in a range of 0.25 to 1.0 time with respect to an opening width of the other cell.

25 6. The method of manufacturing the ceramic honeycomb structure according to claim 5, further comprising the steps of: forming facing corner portions

of four adjacent reference cells of the ceramic honeycomb body into curved shapes; and drilling the holes by the use of four reference cells as the reference points.

5 7. The method of manufacturing the ceramic honeycomb structure according to any one of claims 1 to 6, further comprising the steps of: forming the ceramic honeycomb body by extrusion forming via a ferrule having the shapes of the opening parts of the reference cells.

10

 8. The method of manufacturing the ceramic honeycomb structure according to any one of claims 1 to 7, further comprising the steps of: dividing the other cells into a plurality of blocks in such a manner as to include
15 the reference cells; and drilling the holes for each of the blocks.

 9. The method of manufacturing the ceramic honeycomb structure according to any one of claims 1 to 8,
20 wherein a ratio of an opening area of each of the holes to an area of the opening part of each of the other cells in the end face is 30 to 70%.

 10. A ceramic honeycomb structure manufactured
25 by the method of manufacturing the ceramic honeycomb structure according to any one of claims 1 to 9.